



Process case study

Lessons learnt from water point construction in Eritrea

Water point establishment or rehabilitation is a key LEGS preparedness activity for supporting communities likely to be impacted by slow-onset emergencies, and best undertaken in the alert/alarm or recovery phases. Interventions that focus on addressing the fragile and intermittent water access within arid and semi-arid regions are often complex and time consuming. This case study is from an International Committee of the Red Cross (ICRC) intervention in Eritrea in 2018 that constructed two water ponds for rainwater harvesting, and covers many of the critical issues in increasing water access. These include site location, confirmation of engagement, social agreements, excavation, management and monitoring

Background

Eritrea is an arid and semi-arid country, with low and unevenly distributed rainfall that varies greatly between years. Recurrent and severe droughts in the lowland pastoral areas result in a scant short rainy season and unpredictable main rainy season. Eritrea's geology, thin soil formation, and deforestation mean that rains turn into flash floods, making water harvesting interventions a potential way to mitigate the chronic scarcity of water. In the Anseba Region livestock are key assets for the majority agro-pastoralist communities. Water points are scarce, and in the dry season livestock are forced to trek long distances to access them. The strategic construction of ponds allows for storage of rainwater, optimising the intake of natural catchments, and creating water reserves that can last several months (4 to 6) after an average rain season. Following an ICRC needs assessment, priority was given to construct ponds in two selected areas where water access is difficult.

The first location, Enkoke, is located 156km NW of Asmara town with a population of 2,475 households and approximately 30,000 livestock (20,000 small ruminants, 5,215 cattle, 985 camels, and 1,800 donkeys). The water source for both humans and livestock is an open shallow well located around 10km from the village. During the dry season its yield is not enough for the needs of people and animals, and the livestock migrate towards Mogoraib (Barka river) about 50km east of the village. The second location, Megol, is located 12km NW of Asmara and 12km NE of Hagaz town, with a population of 2,545 households and around 20,000 livestock (16,000 small ruminants, 2,000 cattle, and the remainder donkeys and camels). The water source for both humans and livestock is a borehole (equipped with hand pump) situated 1km away. The yield is poor from January to June when herders migrate south to the area near the river Mensura.

Use of LEGS

LEGS guidance and principles were followed as much as possible in the design of the interventions, to ensure proper technical, environmental and social assessment of potential new water supply options. Time was spent on the preparation phase, with participatory assessment information collected through Focus Group Discussions and Key Informant Interviews verified with regional Ministry of Agriculture (MoA) representatives. The intervention took account of the water needs of surrounding villages. Numerous discussions were held with departments of animal health, water and environment to explore the feasibility of the interventions. Following an initial agreement between ICRC and regional and central MoA officers, numerous consultations were held with regional authorities and the communities to identify the actual site of the water harvesting ponds and define the modality of the intervention. Lessons learnt from previous experiences of other actors (such as UNDP), were also collected and built upon.

Activities

As well as machine construction, cash-for-work (CFW) activities involved the local communities. In particular, hand laying the rip-rap (paving of the ponds with stones), dam checking and catchment treatment. CFW payments were made directly according to the norms of the MoA CFW work programme. In Megol 107 workers were recruited for 520 person-days and a similar number were recruited for Enkoke. This injected cash directly into the communities, helping cover their essential needs. The intervention was monitored by ICRC personnel and MoA staff, according to a previously defined monitoring plan. Full-time site engineers were assigned to supervise the technical construction. The size, suitability, height, standard and compaction of the components of the pond (such as the spillway, embankment, free board and reservoir), were checked against the design for any amendments or changes. The sub-regional and *kebabi* (administrative unit) administration, together with local MoA officers, organised and coordinated the communities for stone collection for the rip-rap, dams checking and catchment treatment activities.

Outcomes

Some 5,000 households owning approximately 50,000 livestock have directly benefited from the two water harvesting ponds, for a period of 5 months per year at full capacity. In addition, some livestock keepers from surrounding villages have accessed the new water points during the dry season, although it has not been possible to obtain exact numbers. The extension of the period when water is available has reduced the migration period, allowing livestock keepers to remain longer in the villages of Enkoke and Megol. This has had a twofold positive impact: Firstly on the communities - whose security has improved due to the reduced risk of conflict over competition for resources in grazing areas during the dry season. The new water points are also used for human consumption. The second impact is on the livestock – whose productive performance has improved due to reduced time trekking (and animal weakening), and reduced risk from disease due to mixing with different herds.

Lessons learned

Whilst the LEGS Participatory Response Identification Matrix (PRIM) could not be carried out in a common session with all stakeholders, the lengthy consultation process with all the concerned stakeholders (ministries, traditional authorities, affected population, other humanitarian actors, private sector etc.) was in effect a 'multi-stage' PRIM. The constant participation of local government authorities (MoA either in the Region or in the capital), in each meeting proved to be effective for sharing information and coordination.

The application of the LEGS participation principle has also helped avoid potential negative effects, such as the risk of attracting other mobile livestock keepers leading to quicker depletion of the pond and overgrazing in the surrounding areas. This has not occurred to any significant extent during the monitoring period, although other livestock keepers in surrounding villages have benefited from the additional source of water.

The prior mobilisation work on pond access, and ensuring a good relationships among the villages in the same areas, have allowed peaceful utilisation of the ponds. The utilisation of the water ponds by more mobile livestock keepers should nevertheless be accurately monitored in the future to avoid competition over resources.

In follow-up discussions with authorities and community members, it was suggested that reducing the use of machinery in favour of more community work would be preferable. It has been recommended that a technical feasibility study ascertain whether the machine work might be reduced by having smaller ponds in greater numbers, whilst recognising that the size of the pond affects its holding capacity, and therefore the permanence of the water supply.

LEGS case studies demonstrate good practice in livestock emergency response. They cover the six LEGS Technical Intervention areas, the eight LEGS Principles as well as the broader contexts covered in the third edition of the LEGS handbook. **Process case studies** illustrate the application of LEGS guidance and **impact case studies** reflect on the outcomes of LEGS interventions.

- > You can access all of the LEGS case studies at livestock-emergency.net/resources/case-studies
- For more information see the Livestock Emergency Guidelines and Standards Handbook at <u>livestock-emergency.net</u>

